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Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on  
September 29, 2003

Dated: September 29, 2003

Signature: \_\_\_\_\_  
(Eileen Sheffield)

Docket No.: NY-CHEMMT-206-US  
(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Klaus-Dieter NITTEL, et al.

Application No.: 10/088,840

Group Art Unit: 1742

Filed: July 2, 2002

Examiner: A. L. Oltmans

For: METHOD FOR APPLYING MANGANESE  
PHOSPHATE LAYERS

### RULE 132 DECLARATION

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA. 22313-1450

Dear Sir:

### DECLARATION UNDER RULE 132

Sir:

1. I am Klaus-Dieter Nittel, a chemist employed by the assignee of the present invention. I have a diplom in chemistry. I am a member of Chemetall GmbH since 1968 and I am working in the field of manganese phosphating since then, too.
2. I am fully familiar with the patent application and I am familiar with the Office Action dated October 28, 2003.
3. I submit this declaration with the accompanying data in view of the Examiner's analysis of the application, particularly the Examiner's 35 U.S.C. § 103(a) rejection of claims 8-10 and 13 as allegedly obvious over Hansen et al. U.S. Patent No. 3,860,455 (Hansen) in view of Clifford et al. U.S. Patent No. 2,375,468 (Clifford), and the rejection of claims 11-12 under the same

statute as allegedly obvious over Hansen, Clifford and Bittner et al. U.S. Patent No. 5,798,425 (the '425 patent). Claim 14 was rejected as allegedly obvious over Hansen, Clifford and U.S. Patent No. 4,824,490 to Oei, and claims 15 and 16 were rejected as allegedly obvious over Hansen, Clifford and U.S. Patent No. 2,987,427 to Shaw.

4. I have reviewed Clifford and, at my direction, I have reviewed Example 1 of Clifford which relates to manganese phosphating, the only relevant and informative example since Example 2 relates to zinc phosphating and example 3 relates to zinc/manganese phosphating.

5. The information provided by Clifford is vague, but based on my review, I conducted an experiment modeled after Example 1 of Clifford. My calculations and tests indicate that the composition of Clifford has the following composition:

46.4 g/L P<sub>2</sub>O<sub>5</sub>

13.6 g/L Mn

100 points total acid

16.6 points free acid

0.166 S value as a relation of free acid to total acid.

6. The S value of the composition of Clifford is outside the presently claimed range. No nitrate was added. The test was conducted on a steel sheet. To reach an iron (II) content as claimed, there has to be a stronger or longer pickling process that is taught by Clifford.

7. According to Clifford, no coating resulted at room temperature, and there was no or nearly no pickling effect at room temperature.

8. The solution was then heated to 80 degrees Celsius, but there was nearly no coating formed on a steel sheet as before, but the pickling effect was very strong.

9. I added 3 g/l of nitroguanidine to the above solution. At room temperature, there was nearly no coating formed during a contact time of 10 minutes.

10. I heated this solution to 80 degrees Celsius. There was a coating formed during a contact time of 10 minutes. A scanning electron microscope photograph revealed that the coating was not closed and inhomogeneous (photograph 2 in comparison to photograph 1 of a coating according to the present application). Therefore, at the places of unclosed parts of the coating, a strong corrosion may occur. The coating showed extremely coarse phosphate crystals (mostly above 100  $\mu\text{m}$ ) and the coated surface was extremely rough. It would cause a very high friction during cold forming. Such a coating is clearly not suitable for any industrial application.

11. The pickling effect was significantly reduced compared to the foregoing heating step without nitroguanidine, apparently because of the passivation effect of nitroguanidine.

12. This indicates that nitroguanidine does not act as a typical accelerator in Clifford's Example 1 composition. There is no disclosure in Clifford that nitroguanidine could limit pickling and limit the increase of iron (II).

13. It is my opinion that the coating formed in items 9. and 10. above are unsuitable for corrosion protection, and is not suited to a cold forming process.

14. If only the manganese dihydrogen phosphate mentioned in Example 3 of Clifford would be added as phosphate component to the phosphating solution, then there would be no free acid. Therefore, the S value would be about zero or even negative.

15. It is my opinion that Clifford cannot be combined with Hansen or other references to arrive at the claimed invention.

16. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

By Maus-Dietrich Nittel

Date March, 19<sup>th</sup>, 2004